

Assessment and Remediation of Robinson Road Exxon (SD Brothers LLC) MGPTF Facility ID #3659

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Background and Details of Release

Robinson Road Exxon (SD Brothers LLC) is owned by Mr. Sanjay Kumar, and is located at the northeast corner of Robinson Road and Highway 80 in Jackson, MS.

The site is an active retail provider of gasoline and diesel fuel, and has 4 USTs (the gasoline tanks are 10K, 8K, 8K gallons, and the diesel tank is 4K gallons).

On February 15, 2011, UST Emergency Response responded to a report of free product coming up through the cracks in the pavement at the site.

Free product was also reported down gradient, in a drainage ditch located in the MDOT Right-of-Way along Highway 80.

Background and Details of Release



Background and Details of Release

Western side of Drainage ditch



Background and Details of Release



Background and Details of Release

Eastern side of Drainage ditch



Background and Details of Release

The cause of the release was determined to be an Environ piping failure.

Due to the high groundwater at this site (depth to water is typically around 3'), heavy rain events resulted in the appearance of free product on the parking lot and in the ditch.

A collaborative effort between the Owner, MDEQ, and the Owner's contractor, helped to mitigate the contamination seen in the first months after the release, through the application of absorbent material on the parking lot and in the ditch.

Fuel sales were stopped, and the entire site was re-piped by the Owner's contractor, with fuel sales resuming in April 2011.

Soil Excavation and Ditch Sump Installation

The site was determined to be eligible for reimbursement through the Mississippi Groundwater Protection Trust Fund (MGPTF), and the Owner selected Neel-Schaffer as their ERAC.

In May 2011, a soil excavation and ditch sump installation project was initiated at the site to address the contamination that continued to migrate to the drainage ditch during heavy rain events.

Due to the fact that the area being worked on was in the MDOT Right-of-Way, a MDOT Permit had to be obtained by Neel-Schaffer before the excavation work could begin.

Also, as part of this project, Walker-Hill Environmental constructed two oil/water separator sumps in the ditch in order to capture free product.

Soil Excavation and Ditch Sump Installation



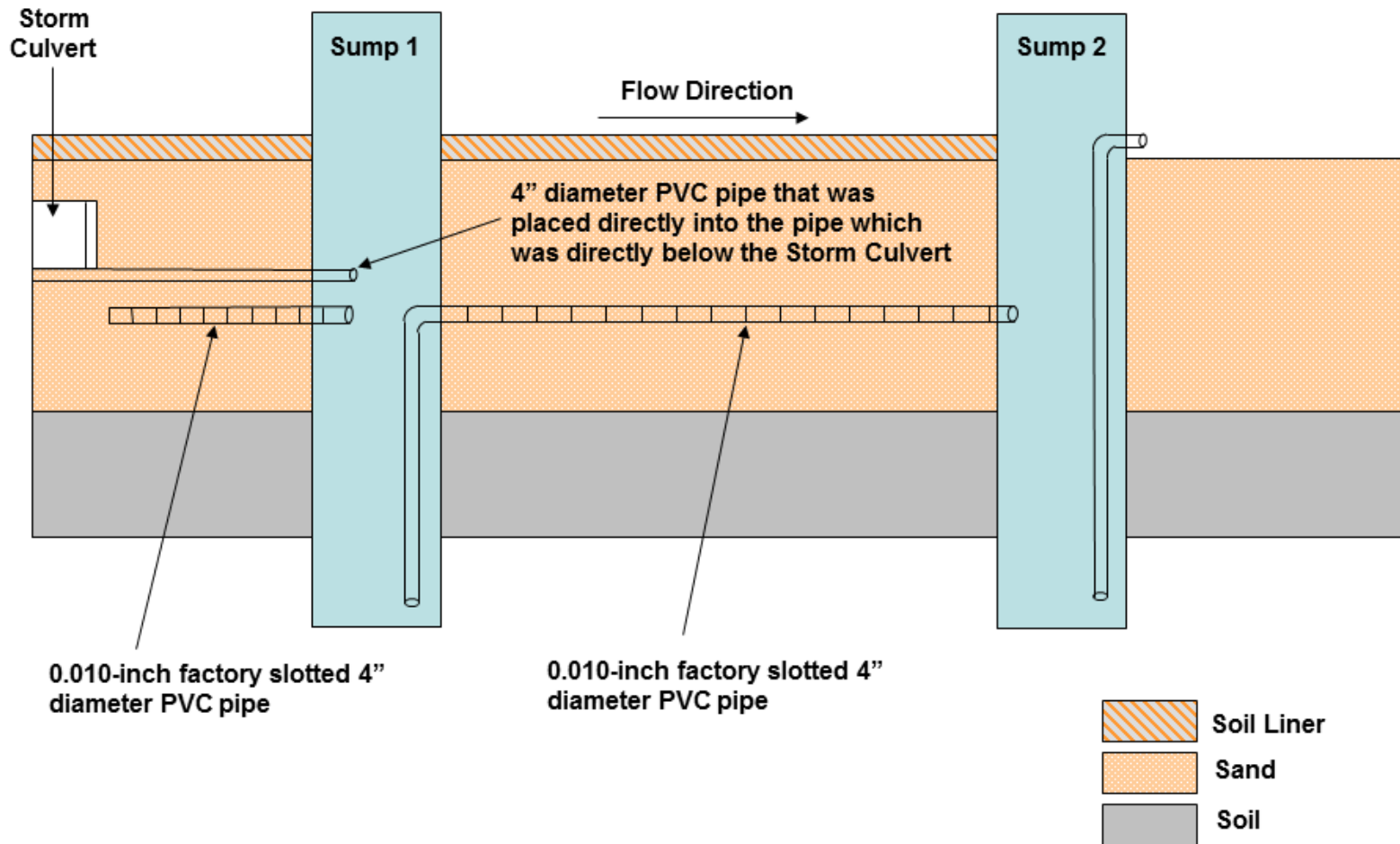
Soil Excavation and Ditch Sump Installation

During the ditch sump installation, a pipe approximately 6” in diameter of unknown origin was encountered directly beneath the storm culvert in the ditch.

When this pipe was exposed, free product and water flowed from it, indicating that the pipe was acting as a preferential pathway for contamination to reach the ditch.

The decision was made in the field to connect this pipe to the western sump being constructed in the ditch.

Soil Excavation and Ditch Sump Installation



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Soil Excavation and Ditch Sump Installation



PSI and ASI Assessments

In July 2011, a PSI (Preliminary Subsurface Investigation) was conducted at the site.

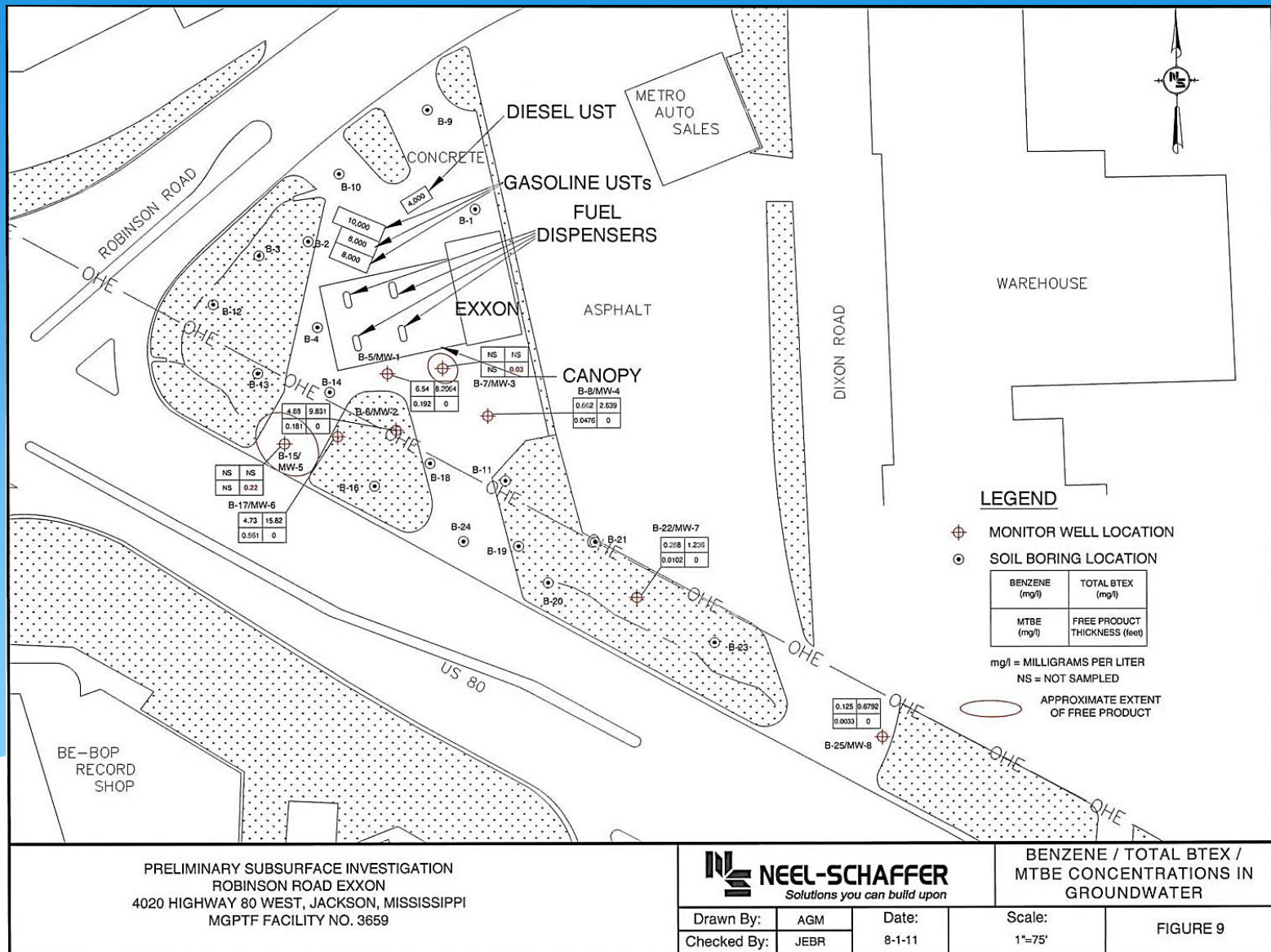
During this initial assessment, a total of (25) 1" borings were drilled, (8) of which were converted to 1" wells at an average depth of 19'.

It was determined that the geology at the site was sandy to silty clays from ground surface to depths of approximately 4'-16', underlain by ~4' of saturated gravelly clays, and finally a very stiff clay at boring termination depth.

Groundwater at the site was found to flow to the southeast, toward the ditch.

The assessment found one soil sample over the State's corrective action limit, and two of the monitoring wells installed contained free product during the PSI.

PSI and ASI Assessments



PSI and ASI Assessments

In August 2011, utilizing jetting and video inspection, further work was performed to investigate the origin of the 6" pipe found during the ditch sump installation.

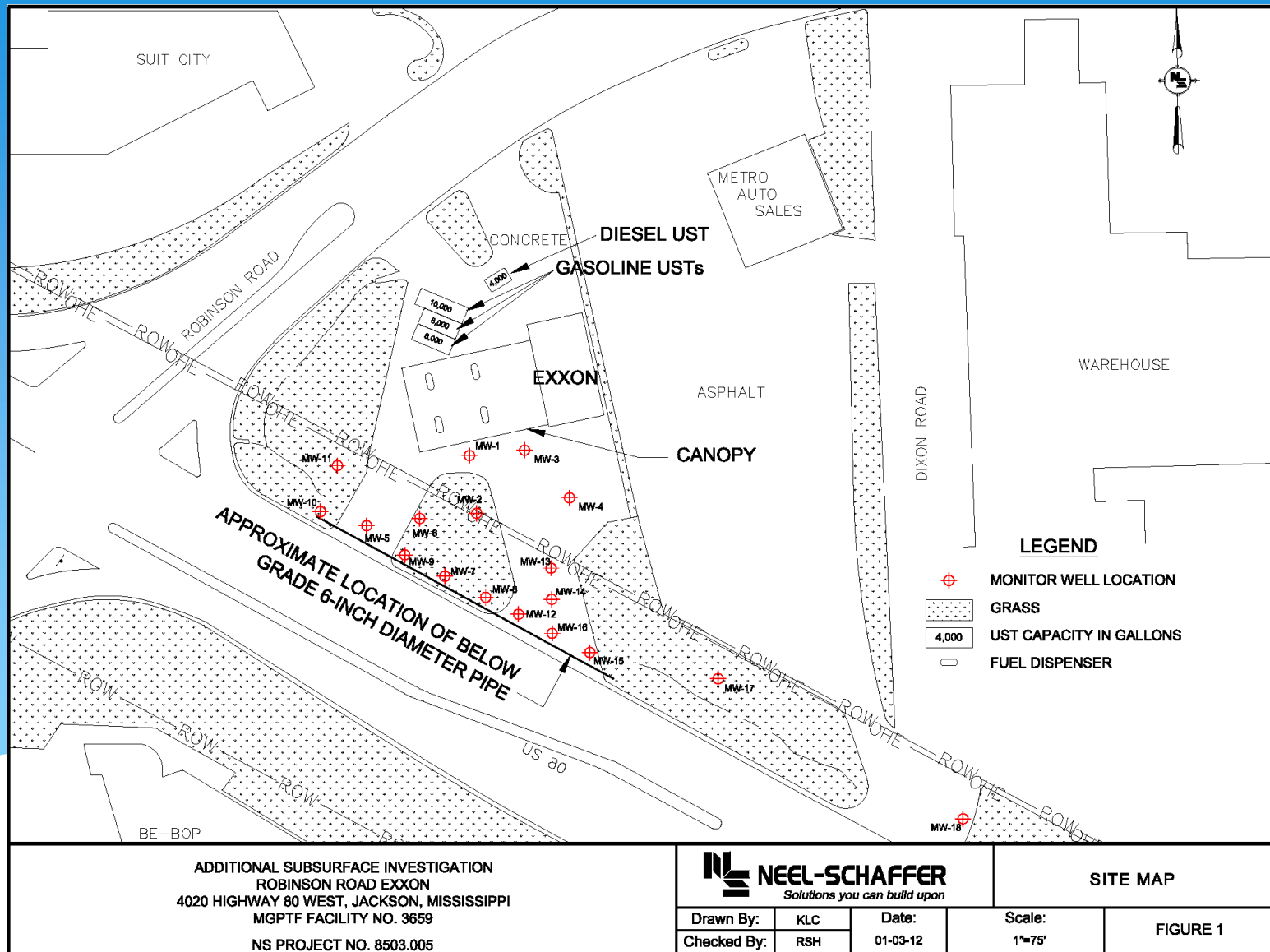
It was determined through this investigation that this 6" pipe ran parallel to Highway 80 for a distance of 208', so it was decided to focus the ASI (Additional Subsurface Investigation) on this area.

Because the area where this pipe ran was within the MDOT Right-of-Way, another MDOT Permit had to be obtained by Neel-Schaffer before the ASI could begin.

During the ASI, which was conducted in December 2011, (10) new 4" wells were installed in the area near the pipe's location, and (6) of the 1" wells from the PSI were overdrilled to become 4" wells.

From June 2011 to November 2012, a total of 18 vacuuming events were conducted at the site, focusing mostly on the ditch sumps.

PSI and ASI Assessments



Turnkey Meeting and DPVE System Installation

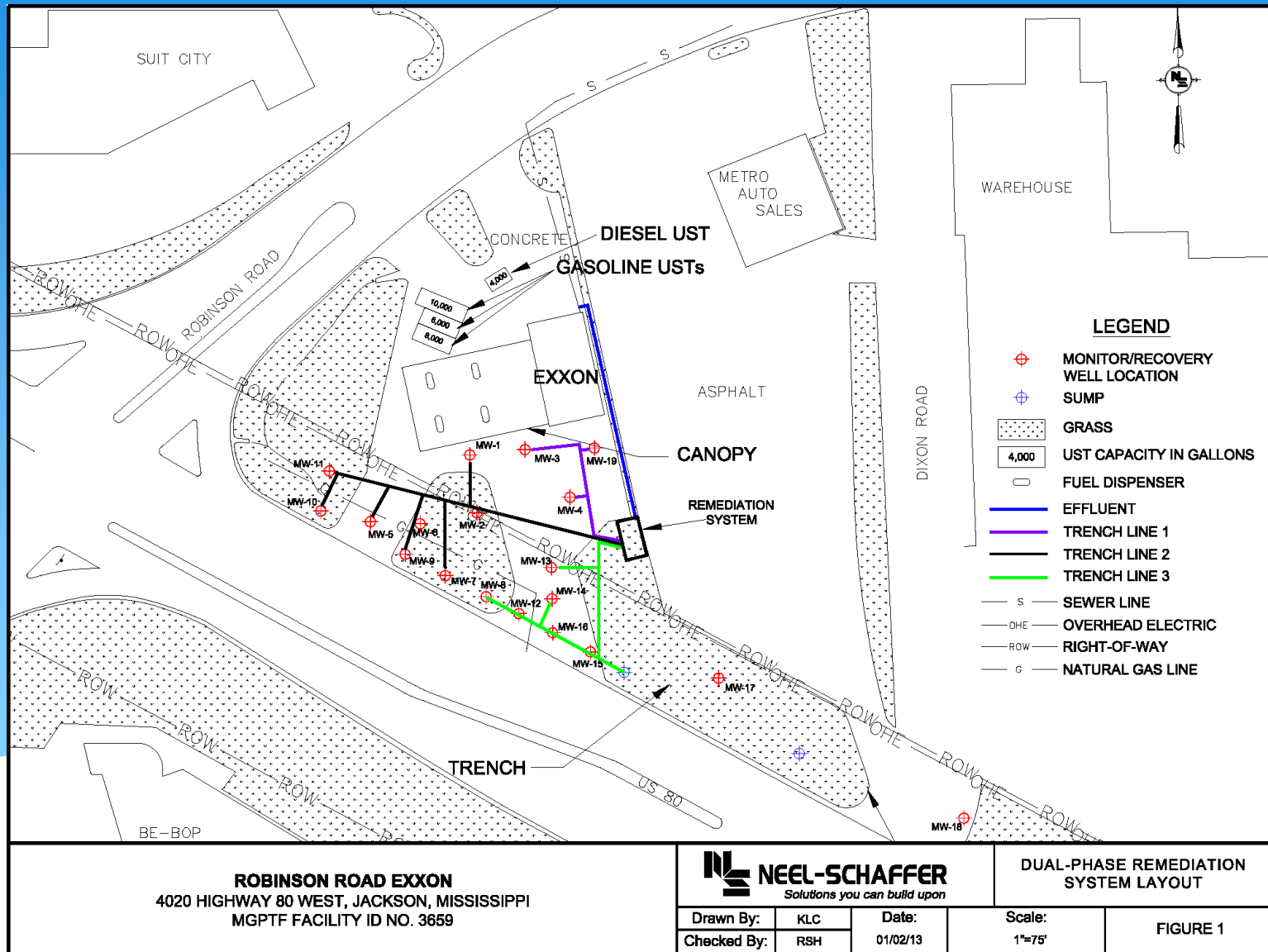
On May 29, 2012, a Turnkey Meeting was held on-site to discuss the implementation of a Dual Phase Vacuum Extraction (DPVE) System – In attendance were the Owner (Mr. Kumar), and representatives from MDEQ, Neel-Schaffer, the City of Jackson, and Entergy.

The DPVE System specified for this site was a (2) 25 hp motor, oil-sealed liquid ring blower system manufactured by MK Environmental.

A total of 17 recovery wells, in addition to the western ditch sump, were hooked to the System, through the use of 3 trunk lines.

The DPVE System was installed during December 2012, and started up on December 20, 2012.

Turnkey Meeting and DPVE System Installation



Turnkey Meeting and DPVE System Installation



System Operation, Shutdown, and Closure

The DPVE System ran at the site from December 20, 2012 until July 31, 2014 (1½ years), during which time Neel-Schaffer personnel made 3 visits each month and conducted Triannual (every 4 month) groundwater samplings, until two samplings were under the State's corrective action limits (highest BTEX concentration was 4.449 ppm).

After System Shutdown on July 31, 2014, confirmation groundwater samplings of all monitoring wells and the two ditch sumps were conducted in September 2014 and February 2015, with both samplings being under the State's corrective action limits (highest BTEX concentration was 3.139 ppm).

The Closure activities at the site, which include plugging and abandoning the monitoring/recovery wells, as well as closing and abandoning the ditch sumps and piping, will again require a MDOT Permit in order to proceed.

This past week, MDEQ issued the Financial Approval to Neel-Schaffer to initiate the Closure activities at this site.